

WHAT IS CLAIMED IS:

1. A wear-resistant electrically conductive body, comprising:
 - (a) an electrically conductive body; and
 - (b) an ion-accelerated, wear-resistant, electrically conductive coating on the electrically conductive body, the ion-accelerated, wear-resistant, electrically conductive coating containing contiguous metal atoms and diamond-like carbon atoms.
2. A wear-resistant electrically conductive slip-ring, comprising:
 - (a) an electrically conductive slip-ring; and
 - (b) an ion-accelerated, wear-resistant, electrically conductive coating on the electrically conductive slip ring, the ion-accelerated, wear-resistant, electrically conductive coating containing contiguous metal atoms and diamond-like carbon atoms.
3. The wear-resistant electrically conductive slip ring of claim 2 wherein the contiguous metal atoms are contiguous copper atoms.
4. A wear-resistant electrically slip ring of claim 2 and further comprising an interfacial layer between the ion-accelerated, wear resistant, electrically conductive coating and the electrically conductive slip ring.

5. A method for making a wear-resistant electrically conductive body, comprising ion-accelerating copper ions and diamond-like carbon ions onto an electrically conductive body, the ion-accelerating of the copper ions and diamond-like carbon ions occurring simultaneously.
6. A wear-resistant electrically conductive body, comprising:
 - (a) an electrically conductive body; and
 - (b) an electrically conductive ion-formed diamond-like surface on the electrically conductive body, the surface containing diamond-like, amorphous carbon and graphite, the amorphous carbon and graphite being in a contiguous configuration.
7. A dual ion-beam process for depositing a wear-resistant diamond-like coating on an electrically conductive surface, comprising
 - (a) sputtering a surface of a diamond-like carbon source with first ion beam;
 - (b) striking carbon atoms that are on the electrically conductive surface with a second ion beam, in order to maintain the carbon atoms in a metastable state;
 - (c) adjusting power and intensity of the first ion beam in order to control an intensity of energy applied to the diamond-like carbon source; and
 - (d) adjusting power and intensity of the second ion beam, in order to control characteristics of a wear-resistant diamond-like coating on the electrically conductive surface.